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10/531,257

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EXAMINER

ABU ALI, SHUANGYI

ART UNIT

PAPER NUMBER

1755

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/531,257

Applicant(s)

PRUETT ET AL.

Examiner

Shuangyi Abu-Ali

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-38 and 40-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-38 and 40-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

(1)

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-13, 16, 18-19 and 47-52 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/51815 to Husband et.

Regarding claim 1, Husband et al. disclose a kaolin composition having a shape factor of 30, wherein 91% of the particles having an esd of less than 1  $\mu\text{m}$  and 44 % of the particles having an esd of less than 0.25  $\mu\text{m}$  (page 41, lines 20-23).

Regarding claims 2-4, Husand et al. disclose that the kaolin coating composition for paper is preferred in a solid concentration of 60-70% (page 25, lines 13-19). Although Husband et al. are silent about the viscosity of 63%, 66%, and 69% solid kaolin slurry composition as set forth by applicant in claims 2-4, it is the position of the examiner that since the viscosity of kaolin composition is determined by its constituent, the claimed viscosity of the composition would be inherent to that of Husband et al. See MPEP 2112.

Regarding claims 5-9, Husband et al. disclose the kaolin composition comprising 97% of the particles having an esd less than 2  $\mu\text{m}$  (page 41, line 18).

Husband et al. are silent about the kaolin composition having 98% of particles with an esd less than 2  $\mu\text{m}$  as applicant set forth in claim 8. However, "about" permits some tolerance. In re Ayers, 154 F 2d 182, 69 USPQ 109. Thus Husband et al. disclosure meets the limitation of claim 8.

Regarding claims 11 and 12, Husband et al. disclose that 91% of the particles having an esd of less than 1  $\mu\text{m}$  (page 41, line 20).

Husband et al. are silent about the kaolin composition having 92% of particles with an esd less than 1  $\mu\text{m}$  as applicant set forth in claim 12. However, "about" permits some tolerance. In re Ayers, 154 F 2d 182, 69 USPQ 109. Thus Husband et al. disclosure meets the limitation of claim 12.

Regarding claims 13, 16 and 18, Husband et al. disclose that the kaolin composition having a shape factor of 30 (page 41, line 23).

Regarding claim 19, Husband et al. disclose that the kaolin composition comprising 44% of the particles having an esd of less than 0.25  $\mu\text{m}$  (page 41, lines 21 and 22).

Regarding claim 47, Husband et al. disclose a paper coating grade kaolin slurry composition having a shape factor of 30, wherein 91% of the particles having an esd of less than 1  $\mu\text{m}$  and 44 % of the particles having an esd of less than 0.25  $\mu\text{m}$  (page 41, lines 17-23) coated on a web of base paper (page 42, line 7).

Regarding claim 48, Husband et al. disclose that the kaolin composition comprising 97% of the particles having an esd less than 2  $\mu\text{m}$  (page 41, line 18).

Regarding claim 49, Husband et al. disclose that the kaolin coating composition for paper is preferred in a solid concentration of 60-70% (page 25, lines 13-19).

Although Husband et al. are silent about the viscosity of 63% and 69% of solid kaolin composition as set forth by applicant in claim 49, it is the position of the examiner that since the viscosity of kaolin composition is determined by its constituent, the claimed viscosity of the composition would be inherent to that of Husband et al. See MPEP 2112.

Regarding claim 50, Husband et al. disclose that the calcium carbonate is used in paper coating composition (page 16, line 12).

Regarding claim 51, Husband et al. disclose a method of coating a paper substrate by coating the paper substrate with a kaolin composition comprising a kaolin composition, which has a shape factor of 30, 91% of the particles having an esd of less than 1  $\mu\text{m}$  and 44 % of the particles having an esd of less than 0.25  $\mu\text{m}$  (page 42, lines 6-9 and page 41, lines 20-23).

Regarding claim 52, Husband et al. disclose that the kaolin composition comprising 97% of the particles having an esd less than 2  $\mu\text{m}$  (page 41, line 18).

Regarding claim 53, Husband et al. disclose that the coating composition for paper is preferred in a solid concentration of 60-70% (page 25, lines 13-19). Although Husband et al. are silent about the viscosity of 63% and 69% of solid kaolin composition as set forth by applicant in claim 53, it is the position of the examiner that since the viscosity of kaolin composition is determined by its constituent, the claimed viscosity of the composition would be inherent to that of Husband et al. See MPEP 2112.

(2)

Claims 1,8, 10-17, 20-36, 38, 40-46 and 54-55 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/59840 to Golley et al.

Regarding claims 1 and 20, Golley et al. disclose a kaolin composition having a shape factor at least 50 (page 13, line 27), at least 72 weight % of particles having an esd less than 1  $\mu\text{m}$  (page 12, line 29) and 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (page 12, lines 27 and 28).

Regarding claim 8, Golley et al. disclose the kaolin composition comprising at least 80% of particles having an esd less than 2  $\mu\text{m}$  (page 12, line 24).

Regarding claims 10-12, Golley et al. disclose the kaolin composition comprising at least 72% of particles having an esd less than 1  $\mu\text{m}$  (page 12, line 29).

Regarding claims 13-17, Golley et al. disclose that a kaolin composition having a shape factor at least 50 (page 13, line 27).

Regarding claim 21, Golley et al. disclose a method of making a kaolin composition:

1) Grinding a degrittied kaolin slurry (page 14, line 20) composition comprising at least 50 weight % of particles having an esd less than 2  $\mu\text{m}$  (page 13, line 31 to page 14, line 1); and

2) Classifying the grounded kaolin slurry to obtain a composition having a shape factor at least 50 and at least 85- 95% weight % particles having an esd less than 2  $\mu\text{m}$  (page 16, lines 2-6 and page 12, lines 24-25).

Regarding claim 22, Golley et al. disclose sedimentary kaolin used in the process of making pigment (page 5, line 22).

Regarding claims 23-25, Golley et al. disclose a method of making a kaolin pigment composition as set forth above, but they are silent about the viscosity of kaolin composition as set forth by applicant in claims 23-25. It is the position of the examiner that since the viscosity of kaolin composition is determined by the constituent of the composition, the claimed viscosity of the composition would be inherent to that of Golley et al. See MPEP 2112.

Regarding claim 26, Golley et al. disclose that around 20%-35 weight% of particles having an esd less than 0.25  $\mu\text{m}$  (page 8, line 28).

Regarding claim 27, Golley et al. disclose that at least 50 weight% of particles having an esd less than 2 $\mu\text{m}$  (page 8, lines 1-2)

Regarding claim 28, Golley et al. disclose that the shape factor of the raw kaolin composition is at least 15 (page 7, line 31).

Regarding claim 29, Golley et al. disclose that a particular grinding medium is used in the refining kaolin composition process (page 8, line 9).

Regarding claims 30 and 31, Golley et al. disclose that the optimum amount of energy used in the refining process is in the range of 20kWh to 100 kWh per ton of kaolin (page 9, line 1).

Regarding claim 32, Golley et al. disclose that the degrittied kaolin composition is subjected to magnetic separator to remove minerals (page 14, lines 20-23).

Regarding claim 33, Golley et al. disclose that treatment such as magnetic separation, ozone, reduced-acid leaching, floatation, and selective floatation is performed before or after grinding (page 41, claims 19 and 20).

Regarding claim 34, Golley et al. disclose that the kaolin refining process can comprise of centrifuge operation of size separation to control less than 0.25µm particles amount in the composition (page 17, line 28-31 and page 18, lines 1-4).

Regarding claim 35, Golley et al. disclose a method of refining a raw degrittied kaolin slurry composition (page 14, line 20) having at least 50 weight % of particles having an esd less than 2µm (page 13, line 31 to page 14, line 1)) and a shape factor greater than 15 (page 13, line 26).

Regarding claim 36, Golley et al. disclose that the refined kaolin composition comprising 35 weight % of particles having an esd less than 0.25 µm (page 12, line 27).

Regarding claim 38, Golley et al. disclose a method of refining kaolin composition:

- 1) Preparing a degrittied kaolin slurry (page 14, lines 20-23) composition having at least 50 weight % of particles having an esd less than 2 µm (page 13, line 31 to page 14, line);
- 2) Grinding the kaolin slurry composition by using an optimum amount of energy in the range of 20kWh to 100 kWh per ton of kaolin (page 9, line 1); and
- 3) Classifying the grounded kaolin clay to obtain a composition comprising at least 80 weight % particles having an esd less than 2 µm (page 12, line 24).



Regarding claims 40-42 Golley et al. disclose that the refined kaolin composition having a shape factor at least 50 (page 13, line 27).

Regarding claim 43, Golley et al. disclose that the refined kaolin composition comprising 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (page 12, line 27).

Regarding claim 44, Golley et al. disclose that the refined kaolin composition slurry is spray-dried (page 16, line 19).

Regarding claims 45 and 46, Golley et al. disclose that treatment such as magnetic separation, ozone, reduced-acid leaching, floatation, and selective floatation is performed before or after grinding (page 41, claims 19 and 20).

Regarding claims 54 and 55, Golley et al. disclose a method of preparing kaolin composition comprise of dewatering kaolin slurry by one of the ways that is well known in the art such as evaporation (page 16, line 10) to obtain a kaolin composition comprising at least 80 weight % of particles with an esd less than 2 $\mu\text{m}$  (page 8, line 24) and a shape factor at least 50 (page 13, line 27).

(3)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable by WO 00/59840 to Golley et al., further in view of U. S. Patent 6,186,335 to Arrington-Webb et al.

Regarding claim 37, Golley et al. disclose a method of refining kaolin composition comprising 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  set forth above (col. 6, lines 25 and 26).

But they are silent about the kaolin composition comprising about 40 weight% of particles having an esd less than 0.25 $\mu\text{m}$  as applicant set forth in claim 37.

However, it would have been obvious to one of ordinary skill in the art the time of invention by applicant to defining the kaolin particles to obtain a kaolin composition as applicant set forth in claim 37, motivated by the fact Golley et al. disclose that the desired amount of less than 0.25  $\mu\text{m}$  particle in the composition can be obtained by varying the parameter of the centrifuge operation (size separation) (page 17, lines 28-29 and page 18, lines1-4).

(4)

### ***Response to Arguments***

Applicant's arguments with respect to claim 37 about U. S. Patent No. 6,610,137 to Golley et al. is not available as the prior art have been considered but are moot in view of the new ground(s) of rejection.

(5)

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art is listed on PTO-892. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA

  
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SUPERVISORY PATENT EXAMINER